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DEMAND FOR FOOD IN 2004-2007

Summary

Food market is a specific market segment - very sensitive to the influence of different factors, both economic and environmental. The article's thesis is that demand constitutes a crucial factor in organizing the market, as its development is closely connected to the general macroeconomic situation in the economy. This paper aims at showing the changes in food demand caused by the dynamic economic grow in 2004-2006. Focusing on some basic determinants of this grow, i.e. GDP, global personal income of the population, household income and food prices, the author discussed the influence of these factors on the amount of expenditure and quantitative food consumption in the period mentioned, and indicated the directions of development of food demand expected in 2007.

Introduction

Food has a dominant position in the consumption structure, both in macro- and microeconomic terms. From the national accounts of the Central Statistical Office (CSO) and the data on consumption in the households sector it follows that in 2005 Polish population allocated PLN 115,999 million to food and non-alcoholic beverages, which is 17.8% of the total gross disposable income. The share of food and non-alcoholic beverages in individual consumption from personal incomes amounted to 19.1%. According to household budget survey carried out by CSO, in 2005 the monthly nominal per capita household's available income in the whole sector of households amounted to approx. PLN 761 on average, while the level of average monthly expenditure – PLN 690, including expenditure for food and non-alcoholic beverages – PLN 194. Household expenditure for food constituted 25.5% of income and 28.1% of total expenditures, absorbing a considerable part of Polish families' budgets. The share of food in the consumption structure is determined by the general level of wealth and the structure of costs of living. In Poland the share is much higher than in highly developed European Union countries in which it was at the level of 12.0% (EU-15) in 2005, but it gradually decreases alongside with an increase in GDP and improvement in the income situation of the population, while the absolute value of food consumption increases.

Since 2003 Poland has been in a good macroeconomic situation. The strengthening of the upward trends in economy led to the development of food demand, which was reflected in an increase in expenditure for food in and outside households, increase in the quantity of food purchases and improvement in the quality of diet in 2004-2006. The course of events within the field of food consumption in the subsequent years of the above-mentioned period was different, which was clearly related to the changing consumption conditions and different strength of the factors determining the value. Recognition of these determinants is not only interesting but also necessary to prepare accurate prognoses and forecasts.

The food demand is primarily determined by economic factors, such as: consumers' income, prices of consumer goods and services, including especially food products, price relations in this group and price relations between food and other consumer goods and services. The level of meeting the needs for food is dependent on the supply of food, which is sourced mainly from the national agriculture and food industry. The supply level is significantly influenced by changes occurring in foreign trade in agri-food products. Development of the food demand is also clearly related with the situation on the labour market and the general population structure. The outlined problems demonstrate that food production and consumption are directly and indirectly linked to almost all areas of socio-economic life through different kinds of interrelations. Because the material and system environment of the food market is so extensive, it is impossible to analyse all variables, which shape the general level of food demand. Therefore, the article will be focused on some basic determinants of economic development, such as: GDP, income of the population and prices of agri-food products, which have fundamental impact on the consumption trends. Also the changes in these conditions in 2004-2007 and their impact on shaping of the efficient food demand will be discussed.

Major determinants of the national food demand in 2004

Polish accession to the European Union in 2004 contributed to higher dynamics of economic growth. In 2004 **the volume of gross domestic products increased by 5.3%**, in comparison with 3.8% in 2003[1]. In the first half of 2004 the growth of GDP in real terms was by 6,5%, which was the highest growth rate since 1997. The clear signs of revival were observed in industrial production, internal trade and export. The situation on the labour market improved[2]. However, it was not suffi-

[1] In 2004 Polish economy developed over two-times faster than the EU-25 countries where the GDP growth rate amounted to 2.4%. The level of GDP per capita in Poland constituted approx. 47% of the EU average (EU-25 according to the Purchasing Power Parity).

[2] In 2004 the decrease in employment was considerably slower than in the previous years. In December 2004 the registered unemployment rate amounted to 19.0% and it was by 1 percentage point lower than in the corresponding month in 2003. In December the average employment in enterprises sector was higher compared to the corresponding month of the previous year by 0.2%.

ciently reflected in the income of the population living on wage-earning employment and social benefits. Despite favourable results in production and service activities, high labour efficiency and good financial situation of economic entities **the remuneration growth rate in the enterprise sector was considerably slower than in the previous years** and its dynamics slowed down during the year. High inflation and entrepreneurs' drive to minimise the labour costs resulted in a decrease in real remuneration in the second half of the year. Moreover, also other factors, such as high unemployment and large competition on the labour market, had an impact on the slowdown in the growth of remunerations. As a result in 2004 the purchasing power of remuneration in the economy increased on average by 0.7% against 3.4% in 2003. The growth rate of social benefits also significantly decreased. At the same time, the significant increase in the incomes of employers and self-employed persons was noted, including people working in individual farm households, as well as incomes derived from the ownership rights and from rent. Profitability of agricultural holdings was increased by rapidly growing procurement prices and prices of agricultural products on the free market, as well as subsidies from EU funds and State budget. Taking into account the change of income in individual subsectors the CSO estimates that in 2004 the **global personal income of the population (corrected by the CPI index) was in real terms higher by 2.3% than in 2003**[3].

In 2004 the households allocated to individual consumption (from personal income) approx. 93% of the nominal gross disposable income, i.e. by 1.5 percentage points more than in the previous year. Food consumption from personal income (according to the global accounts) increased by 1.6% in 2004 compared to 2003. In 2004 the share of food in the total expenditure of population was at the level of 19.2% and it was slightly lower than in the previous year (19.5%).

Household budget surveys show that **in 2004 the economic situation of households was similar to the one recorded in 2003**[4]. The average monthly

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[3] These are nominal gross disposable income in the households sector estimated on the basis of macroeconomic data. **The households sector** in the national accounts of the Central Statistical Office is formed of natural persons or groups of natural persons who live together and jointly earn their living (combining incomes, expenditures and property) and community households (e.g. inhabitants of social assistance establishments, education and care establishments, monasteries, prisons, etc.). The income account identifies **6 subsectors**: employers and persons self-employed in individual holdings in agriculture and outside these holdings, natural persons in wage-earning employment, persons living from retirement and disability pensions, persons living from non-work incomes other than retirement and disability pensions, as well as other natural persons, i.e. persons continuously living in community housing establishments.
Gross primary income in households sector consist of the gross operational surplus (including incomes gained from the performed economic activity), remunerations (together with contributions to compulsory social security paid by the insured employees) and other income related to wage-earning employment, contributions to compulsory social security paid by employers and income derived from the right of ownership. **Gross disposable income** in the households sector is obtained as a result of correcting gross primary income by: current taxes on income, property tax etc., mandatory social security contributions, social security benefits, social assistance benefits and transfers. They are allocated to financing individual consumption (from personal income) and to gross savings.

[4] Income of households is estimated by the CSO on the basis of results of the household budget surveys and macroeconomic data on personal income of the population.

nominal available income per capita[5] in the total number of households was higher by 3.3% as compared to 2003, but its real value decreased by 0.2%. The decrease in the real income was noted in all groups of households, except for individual farm households and self-employed persons outside agriculture. The improvement in the income situation of farmers' families was primarily related to very good results of agricultural production (especially plant production) and subsidies from EU aid resources. The deterioration of economic situation of the majority of Polish families resulted from, on the one hand, a low growth rate of nominal income, and on the other, the accelerated growth rate of prices of consumer goods and services, especially food prices.

In 2004, after the drop in the two previous years, the food prices significantly increased. From December 2003 to December 2004 they increased by 7.8%, while the prices of consumer goods and services increased by 4.4%. Increase in the average level of food prices in 2004, as compared to 2003, amounted to 6.3% and was almost two-times higher than the inflation rate. For the first time since 1994 the increase (by 2.7%) of food prices in real terms was noted. High increase of foodstuffs prices in 2004 followed from intensified export demand after Polish accession to the European Union, changes in the agri-food market regulation mechanisms and internal conditions related to agricultural production. Moreover, it was strengthened by an increase in the prices of energy resources on global markets (*inter alia*, crude oil, fuels, gas and coal). In 2004 the exceptionally high harvest of basic crops was noted, in particular cereals and rape. However, because of the very low supply and high grain prices in the first half of the year and the introduction of the new intervention system after the accession, the average annual level of cereals procurement prices, including mainly wheat, was higher than in the previous year. The procurement prices of all products of animal origin considerably increased. The significant decrease in pig production, which was related to the trough of the pig cycle, resulted in a dynamic growth of prices of live pigs and pork. The increase in the prices of cattle were a consequence of the strong growth in export after entering the single European market, where the prices of beef were much higher than in Poland. Under the pressure of rising prices of red meat and the growing demand, also the procurement prices of poultry showed a strong upward trend, despite the intensively developing poultry production. The increase in milk and butter exports resulted in considerable growth in the prices paid to the milk producers, and thereby retail prices of dairy products.

Retail prices of food increased the most in the first half of the year and they concerned mostly: sugar, meat (especially beef), edible fats (especially butter) and rice and cereal-based food. In the second half of 2004 as a result of deterioration in the conditions of export profitability, drop in internal demand and increase in supply

[5] Household's available income covers all current money income and income in kind of a household less payments in advance personal income tax paid on income from wage-earning employment, social benefits and taxes paid by self-employed persons, including individual farmers. The available income is appropriated to consumption expenditure, other expenditure and savings increase.

of the majority of food assortment groups from domestic sources and import, there was a significant slowdown in the growth rate of foodstuffs prices in retail trade.

In 2004 food prices went up as compared to the majority of other groups of consumer goods and services. As the food prices increased by 6.3%, compared to the previous year, the total prices of non-food commodities increased by 1.4% and services by 2.7%. The prices of goods and services related to transport increased by an average of 7.2%, of which the prices of fuel for private means of transport by 12.4%.

The prices of services related to the maintenance of dwellings and energy carriers, increased significantly, i.e. by 4.1%. Rents increased by 3.6%, charges for fuel by 4.8%, and for gas by 4.6%. The burden of the prices of the abovementioned goods and services on budgets rose significantly and caused the growth in costs of living of a family. The higher prices of services, whose cost represents a "fixed" item in the budget, significantly limited the possibilities of meeting the food needs, which together with the higher food prices resulted in the reduced food demand.

The increase in the nominal value of households expenditure on food in 2004 by 3.6%, as compared to the previous year, was lower than the growth of food prices (by 6.3%), which means **the drop in the real value of this expenditure (demand) by 2.5%**. The share of expenditure on food in the overall expenditure of households decreased from 28.3% in 1993 to 28.2% in 2004. Household budget surveys show that the majority of socio-economic groups of households reduced the quantitative consumption of dairy products, butter and other animal fats, vegetables and potatoes, as well as products from the group: "sugar, jam, honey, chocolate and confectionery", while the consumption of bread and cereal-based food stabilised at the same level. On the other hand, the demand of households for fish and fish processed products, eggs, vegetable fats and fruit increased. No visible impact of price increases on the level of consumption of meat products in households was noted, in 2004 their consumption, as compared to the previous year, dropped by 0.7%.

Results of the household budget survey[6] confirm the changes in consumption, which were estimated on the basis of the macroeconomic data[7]. The CSO

[6] The results of the household budget surveys inform of the average monthly quantities of foodstuffs purchased or derived from own agricultural holdings and plots or from activity conducted by self-employed persons (e.g. own shops). These data primarily refer to processed products. They exclude consumption in mass catering establishments and staff restaurants, canteens as well as food service establishments in hospitals, nurseries, kindergartens, boarding schools etc. The data concern only the quantities, which were appropriated for consumption within a given household. They illustrate average monthly food consumption per capita in a household. They inform about the development of demand for specific food products reported by households.

[7] Macroeconomic data obtained by the balance sheet method show the consumption of foodstuffs per capita. They result from the calculations considering information of domestic production, import, export, use for non-food purposes and losses. They concern consumption of non-processed products or only partly processed products (e.g. the milling of cereals). Large part of this information is obtained through estimations. The processing causes, *inter alia*, the decrease of the weight of processed raw materials.

balance sheet data show that in 2004 compared to 2003 the total consumption of pork and beef, animal fats, milk, eggs and sugar decreased. The consumption of potatoes also decreased, while the consumption of cereal products remained at the same level. But the consumption of vegetable fats, poultry, fish and fish products, as well as vegetable and fruit increased. The changes resulted from the developments of the domestic demand and prices of the above-mentioned groups of products.

It is worth mentioning that the two categories of data i.e. obtained by the balance sheet method and based on the results of households' budget survey, are different because of the methods of data collection and they are not directly comparable. The level of the balance sheet consumption is, as a general rule, higher as compared to the budget data because it covers not only consumption within a household but also consumption out of a household and the so-called hidden consumption, i.e. indirect consumption following from the use of food raw materials to the production of various products in food industry. For example, eggs consumption registered in budgets covers only the consumption of fresh eggs, in shells, excluding the eggs that were used to make cakes and confectionery, farinaceous products, mayonnaises, coatings, sauces, dressings etc.

Determinants of the food market absorbing capacity in 2005

In 2005 the growth rate of GDP amounted to 3.6% and it was lower than the high rate (5.3%) achieved in the first year after Poland's accession to the European Union. The decrease of the index was a statistical effect to a large extent (so-called base effect). After the significant weakening of the economic growth at the beginning of 2005, in the next months the economic situation has improved. The revival in the industrial production, construction and investment activity was observed, as well as the visible slowdown in the inflationary process. The improvement in the economic situation and the decreasing inflation had an impact on the gradual increase of the purchasing power of wages and salaries as well as retirement and disability pensions. This was accompanied by favourable changes of the situation on the labour market, which were reflected in the increase in employment and the decrease in the unemployment rate.

In 2005 the improvement in the income situation of people living on wage-earning employment (hired workers) was recorded. The increase in real remuneration in enterprises sector amounted to 1.2%, and in the whole economy – 1.8%, and it was slightly higher than in the previous year. There was a slight increase in the real retirement and disability pensions under the social insurance system (by 0.3%). The decrease in the real retirement and disability pensions of individual farmers (by 0.8%) remained at the level of 2004. The greater inflow of EU funds to agricultural holdings contributed to the increase in incomes of the groups of self-employed persons, especially in agriculture. On the basis of macroeconomic data, it is estimated that in 2005 the gross disposable income in the households sector increased in real terms by 2.1%.

According to household budget survey in 2005, **the average monthly real income per capita in the households was kept at the level by 1.4% higher than in 2004** against the decline by 0.2% recorded a year before. The financial situation of employees, farmers and self-employed people and their families improved, but on the other hand – the economic situation of people on retirement and disability pensions worsened. The increase in the income of households was noted mainly in the second half of the year as a result of the lower inflation rate, better situation on the labour market and greater, than in the first half of the year, increase in remunerations and incomes derived from self-employment. **However, it did not compensate them for the growing costs of living caused by the high level of food prices and the significant increase in prices of services**.

After the high increase in the previous year, **in the period from January to December 2005 the total retail food prices and non-alcoholic beverages decreased by 1.3%**. This drop especially concerned products, whose prices increased the most in 2004, i.e. sugar, cereal products, edible fats and meat products. The decrease in prices of meat products was primarily influenced by the increase in animal production in agriculture determined by restocking of pig population, increase in the cattle population and dynamic development of poultry production. The ban on import from Poland introduced by Russia in November was also of significant importance, as well as consumers concerns regarding the effects of the avian influenza. However, the fall in food prices, recorded between December 2004 and December 2005, failed to offset the earlier increases and, as a result, **the average level of food prices in 2005 was by 2.1% higher than in the previous year**. The purchasing power of households' incomes, reflecting their ability to buy food products, dropped. The barrier of demand for food was strengthened by the significant increase in the prices of other goods and services, which are as necessary as food. The households were unable to increase the expenditures on food products according to the increase in their prices, because of the low growth rate of remuneration and social benefits accompanied by the relatively high increase in expenditures on dwellings, transport, healthcare and education that was caused by their price increases. As a result, in the second consecutive year, **the real value of food expenditure (demand) was reduced by 2.5%**. According to the household budget survey in 2005 there was the reduction in consumption of all basic groups of food products, except for poultry meat, fish and fish products, as well as eggs and vegetables. The CSO balance sheet data show that in 2005 compared to 2004 the meat consumption considerably decreased, and especially the consumption of beef, milk, butter and sugar and confectionery. As a result of smaller harvests the consumption of potatoes, vegetables and fruit was significantly reduced. The consumption of cereal products remained at the same level. But there was the increase in consumption of vegetable fats, poultry and eggs, i.e. the products which prices were reduced in absolute terms.

Improvement in the economic situation and the growth in food demand in 2006

The major factors influencing the growth of demand are: the high pace of economic growth, the considerable improvement in incomes of the population, favourable changes on the labour market and relatively low level of food prices which was observed mostly in the first half of 2006.

In 2006 the upward trends in almost all areas of the real sphere of the economy were strengthened. The macroeconomic upturn contributed to keeping the high dynamics of industrial production, construction, both internal and foreign trade, as well as services. **The Gross Domestic Product achieved the value by 6.1% higher in real terms than in the previous year** against 3.6% increase in 2005. The high pace of economic growth was caused mainly by the increasing internal demand and favourable situation in foreign trade. The particularly high growth was in individual consumption, which reflected the demand on the part of households, whose growth rate (5.2%) exceeded the rate observed during the accession boom (in the first half of 2004). The preliminary estimations show **that the increase in food consumption in the sector of households (according to the macroeconomic data) in 2006 was by 2.7%**, i.e. it was twice as high as in 2005. The increase in consumption was recorded in the conditions of the growth in both incomes of the population and the demand for loans.

High economic growth was accompanied by the fast growth in new workplaces and further decrease in unemployment. It resulted not only from an increase in the number of people employed in the national economy, but also from the intensification of migration observed from the beginning of the Polish membership in the European Union. The more and more visible outflow of labour force together with high economic development, high labour efficiency and very good financial results of enterprises, strengthened the pressure to increase remunerations, which in the conditions of the relatively low inflation, caused the substantial growth in their real value. In 2006 **the average real monthly gross remuneration in the enterprises sector increased by 4.2%** compared to the previous year. The real monthly retirement and disability pensions increased to even greater degree, which followed from a revaluation carried out in March 2006, both under the social insurance system for employees (by 6.2%), as well as under the agricultural social insurance system (by 4.3%). The growth in the income of the population was stimulated, just like in 2005, by increasing profits from the economic activity carried out by self-employed persons, the support payments for farmers under the Common Agricultural Policy and financial transfers from persons working abroad. The global real gross disposable income in the households sector in 2006 is estimated to have been at the level higher than in 2005 by 4.0%--4.5%. According to household budget survey, the **average monthly real income per capita in a household increased by 8.8%**.

Despite an increase in the prices of energy resources (especially liquid fuels), effects of the drought and the pressure to increase the remunerations, **inflation stayed at a low level. The growth in food prices was also relatively low**. From December 2005 to December 2006 the retail prices of food and non-alcoholic beverages in total increased by 1.8%. Their average level in the whole year 2006 was by 0.6% higher than a year before, although in the first half of the year it was by 0.5% lower, but in the second half it exceeded the level observed in the corresponding period of the previous year by 1.1%. The acceleration of the growth rate in food prices in the third quarter of 2006 resulted primarily from the fall in harvests and the significant increase in the prices of basic crops, in particular cereals, potatoes, sugar beets and field vegetables. The higher (by 2.6%) animal production did not make up for the lower (by 6.4%) plant production. Because similar situation occurred in 2005 (a drop in plant production by 11.8% and increase in animal production by 5.2%) in 2006 the prevailing tendency of the market was to increase the prices of food of plant origin, while the prices of the majority of food products of animal origin decreased or their growth was relatively small. In 2006, as compared to 2005, the greatest increases were recorded for the prices of vegetables, potatoes, fruit and fruit products, bread, sugar and confectionary, as well as fish and eggs, while the decreases were recorded for the prices of meat (especially poultry), smoked-meat products, fats (especially animal fats) and dairy products.

The following factors: more affluent society, improvement in the labour market and relatively small growth of food prices were reflected in the increase of demand. Good results in animal production in agriculture caused an increase in consumption of food products of animal origin. In 2006, compared with 2005, the balance sheet consumption of pork and poultry considerably increased, just like the consumption of fish and fish products, dairy products and eggs, as well as all types of edible fats, in particular pork fats and butter. The lower level of harvest and increase in the prices of raw crop materials caused a significant reduction in the consumption of foodstuffs of plant origin, in particular cereal processed products, sugar, vegetables and potatoes. The household budget survey shows that in 2006 **the level of households' expenditure on food was significantly higher than in the previous year – in nominal terms by 4.1% and in real terms by 3.5%**. The market food purchases increased and, at the same time, the share of self-supply dropped. It is proved by the increase in retail sale (in constant prices) in commercial and non-commercial enterprises (with more than 9 staff), which sell food, beverages and tobacco products, by 11% i.e. at a rate almost twice as high as in 2005 (by 5.8%). The households considerably increased purchases of highly-processed products, including, *inter alia*, high-quality smoked-meat products and sausages, confectionery, hard ripening cheese and cream cheese, yoghurts, dairy drinks, ice-creams, mineral waters, as well as fruit juices and fruit and vegetable juices. **In 2006 the real expenditure of households on eating out increased significantly, that is by 17%**.

Expected changes in food demand in 2007

In 2006 Poland was in the stage of high economic growth. The analysis of its sources (recovery of investment demand, high increase in consumption and fast growth of export) showed that the observed trends are of durable character. The assessments were expressed in the Budget Act, in which there are the following goals set for the year 2007:

– the increase in GDP by 4.6%;
– the increase in consumption by 3.7%;
– the average annual increase in the prices of consumer goods and services by 1.9%;
– the increase in the average employment in the national economy by 1.4%, of which in the enterprise sector by 1.8%, and the drop in the unemployment rate by even 14.1% by the end of the year;
– the increase in remunerations in the national economy in nominal terms at the level of 5.3%.

Moreover, according to the Budget Act, the average monthly remuneration in the economy in 2007 is projected to rise by 3.3% in real terms, of which in the sector of enterprises – 3.9%, the average monthly real retirement and disability benefits under the social insurance system for employees – 2.3% and for individual farmers – 0.9%. It has been estimated that in 2007 the real growth rate of the fund of remunerations as well as retirement and disability benefits would be smaller than in 2006 and it would amount to respectively 4.7% and 2.2%. It has been forecasted that in 2007, as compared to 2006, the real gross disposable incomes in the households sector would increase by approx. 3.0%-4.0%. This growth, though undoubtedly high, would be, however, lower than the one recorded in 2006.

The Central Statistical Office's data on the development of socio-economic situation in the country in the first quarter of 2007, the research results on the situation of consumers and producers, as well as the opinions of experts from the Ministry of Economy, Ministry of Finance and NBP (National Bank of Poland) lead us to the conclusion that **the development of macroeconomic situation this year will be more optimistic than the scenario adopted in the Budget Act**.

The Ministry of Economy estimates **that the increase in GDP in the first quarter of this year was nearly by 7% and NBP that it exceeded 7%**, which means that it was the highest during almost 10 years. This is confirmed by the quarterly data on the production sold of both the industry (increase by 13% as compared to the first quarter of 2006) and the construction and assembly (increase by 51.1% respectively). In the first three months of 2007 there was the high increase in retail sale (by 17.4% annually), the acceleration of the growth rate of employment in the sector of enterprises (the increase amounted to 4.1%) and the drop in the unemployment rate (at the end of March this indicator was at the level of 14.4% i.e. by 3.4 percentage points smaller than a year ago). In the first quarter of this year, as compared to the first quarter of 2006, average monthly real gross remuneration in the enterprises sector increased by 5.9% (against 4.5% in the fourth quarter of the previous year). The acceleration was connected with the higher growth rate of remuneration in nominal terms than in the previous periods. The purchasing power of the average monthly gross retirement and disability benefits under the social insurance system for employees increased in the first quarter of this year as compared to the corresponding period of the previous year by 3.6% (a year ago it increased by 3.7%), while in the case of the gross retirement and disability benefits for individual farmers – by 2.1% (a year ago it was higher by 1.7%). This data indicate that the economy is still in the stage of revival, which covers almost all areas of real economy: individual consumption, remunerations, employment, export. In addition, the growing investments allow us to believe that the good macroeconomic situation will be maintained also in the next quarters. The NBP estimates that **the increase in GDP in 2007 will amount to 6.5%** against 6.1% in 2006. The good prospects of economic development will be the main stimulus to the increase in the demand for labour and the decrease of the number of unemployed people at the end of 2007, as well as to the reduction of the unemployment rate to the level of approx. 12%--13.0%. According to NBP in 2007 the increase in the average nominal remuneration in the economy will amount to approx. 6%. However, it should also be taken into account that under the conditions of growing pressure to increase remunerations from the side of different occupational groups, outflow of professionally active people to the "old" EU, as well as more and more visible lack of qualified workforce and the weakening position of employers on the labour market it may be even higher and amount to 6.5%-7.0%. Due to the expected acceleration of the inflation rate, the increase of real value of remuneration this year is estimated at the level of approx. 4.5%-5.0%. On the other hand, the growth rate of income derived from social benefits will be lower than in 2006. It is estimated that **in 2007 the real gross disposable income in households sector will increase by 4.9% compared to the previous year. The considerable improvement in the income situation of the population gives a chance to keep the growth rate of the national food demand at the level of approx. 3.0%**[8].

At the beginning of 2007 the acceleration of the growth rate of prices of consumer goods and services was observed, mainly as a result of the considerable increase in the prices of goods and services related to dwellings and foodstuffs. In the first quarter of 2007, as compared to the first quarter of 2006, the total retail prices of food and non-alcoholic beverages increased by 3.4%, while the inflation rate was at the level of 2.0%. Increase in the food prices resulted from the low supply of plant products, which followed from drought in the summer of 2006 and the unfavourable impact of mild winter on storing fruit and vegetables. The supply of poultry also significantly decreased, while the supply of pork remained at a relatively high level. In the second quarter of 2007 the food prices are expected to stay at the level of the first quarter and in the summer months their seasonal decrease is expected to be deeper than in 2006. The higher increase in the food prices is expected in the second half of the year. Beginning with the third quarter the prices of meat should be on the increase as a result of the trough of the pig cycle. Taking into account low stocks of cereals in Europe and growing level of their prices on the global markets the further increase in the prices of bread and cereal products is possible, despite the expected good harvests. The observed increase of export of dairy products may speed up the growth rate of these products on the internal market. Taking into consideration all supply and demand conditions on the agri-food market in 2007 the average annual increase in the food prices is estimated to account for 6.0-8.0%. However, it will be offset by the increase in incomes of the population.

[8] "Popyt na żywność. Stan i perspektywy" [Food demand. Situation and outlook]. IAFE-NRI, AMA, MARD, Warsaw, December 2006. Market Analyses no 7.

Food demand of households in 2007, measured by the real value of expenditure on food, will increase in comparison with its level of 2006 by 3.0%-3.50%, i.e. in a degree similar to the one noted a year before. Significant changes in its structure are expected in the conditions of differentiated supply and prices of the particular product groups in the market. Increase in the supply of live pigs in the first half of the year and the ceasing upward trend in pig production in the second half of the year may result in stabilisation of pork consumption at the level recorded in the previous year, while at the same time the beef and poultry consumption will slightly increase. It is possible that there will be a slight increase in the consumption of edible fats, in particular oils and butter. The balance sheet consumption of raw and melted animal tissue fats will probably remain at the same level as in 2006. The balance sheet consumption of eggs and vegetables will be higher than in 2006. Because of the expected drop in the production, the prognoses about reducing the milk and dairy products consumption will probably turn out to be right. As a result of high level of the prices of bread, cereal products and potatoes in the first half of 2006, their consumption will be reduced. It is possible that the consumption of fish and fish products and the sugar consumption will increase, as a result of growing demand for cakes and confectionery, as well as fruit and vegetable juices. The changes in the level of fruit consumption are difficult to estimate, taking into account the unstable situation of foreign trade in these products and the changeable weather conditions[9].

To sum up it can be stated that:

– According to CSO macroeconomic data in 2004-2006 (if we take 2003 as 100) the total personal disposable gross income in the households sector increased by 17.5% in nominal terms and food consumption from personal income by 14.8%. Taking into account the increase in retail food prices by 9.2%, the real total value of expenditure incurred by the population on food, identified with the global demand, increased by 5.1%. In 2003 the share of food consumption in personal incomes amounted to 17.7%, in 2004 under the influence of high increase in food prices it increased to 18.0% and in 2005-2006 it decreased to 17.3%.
– According to the household budget surveys in 2004-2006 the average monthly nominal income per capita in households increased by 17.5% (form PLN 711.91 in 2003 to PLN 836.68 in 2006). The average monthly nominal food expenditure of households per capita increased by 7.3%, which under the conditions of the growth of the average level of retail food prices by 9.2% means the drop in the real food demand of households in the compared periods by 1.7%. The share of monthly expenditure on food in the average monthly income of households calculated per capita, which in 2003 was at the level of 25.6%, in 2004 increased to 26.5% and in 2005-2006 it dropped to the level of 24.2%.
– The decrease in the food demand of households does not mean the drop in consumption of food in a similar degree by the population because people are more interested in eating out. The household budget surveys show that in

[9] The mild winter in the season 2006/2007 had an impact on earlier flowering of fruit trees and bushes. The preliminary estimation of yields and harvests of fruits in 2007 were very optimistic. But as a result of the ground-frost in the first days of May 2007, the significant drop in harvests of strawberries, cherries and apples is expected.

2004-2006 (2003=100) the average monthly food expenditure of households on the consumption in mass catering establishments per capita increased by approx. 43% in nominal terms and by approx. 30% in real terms (after considering the food price index), of which in 2006, if compared to the previous year, the increase in real terms amounted to 17.0%.

– The balance sheet CSO data show that in 2006, as compared to 2003, every inhabitant of our country increased on average their consumption of meat and its products by approx. 5.0%, and edible fats by 6.0%. The increase in meat consumption was determined, primarily, by increase in the poultry consumption (by 22.0%), accompanied by the slight increase in pork consumption (by 1.0%) and a significant reduction of beef consumption (by 25.0%). The increase in the consumption of fats resulted from the substantial growth of demand for vegetable fats (by 13.0%), while the consumption of butter decreased (by 9.0%) and the consumption of animal tissue fats stayed at the same level. These changes were accompanied by the decrease in the balance sheet consumption of cereal products, potatoes, vegetables, milk and sugar. But the consumption of fruit, fish and fish products, as well as eggs remained at a similar level. The directions of food consumption development were in line with the long-term trends and regularities of changes in the consumption pattern according to the increase in incomes. The increase in the consumption of poultry, fish and fish products, as well as vegetables, expected in 2007, points to the further improvement in the quality of nutrition in Poland.

Table 1

GDP growth rate, real incomes and consumption in the households sector
(according to macroeconomic accounts, previous year = 100)

Years	GDP	Real gross disposable income*	Consumption from personal income**		
			total	individual consumption	food
2000	104.3	100.9	102.5	102.7	101.8
2001	101.2	102.2	101.7	102.2	102.2
2002	101.4	100.3	102.7	103.3	101.2
2003	103.9	101.0	102.6	102.0	100.1
2004	105.3	102.3	104.0	104.4	101.6
2005	103.6	102.1	102.7	102.0	101.3
2006***	106.1	104.5	104.8	105.2	102.7

* According to macroeconomic data revised by CSO in 2007.
** According to average prices in the previous year.
*** Estimation.

Source: Central Statistical Office (CSO) Statistical yearbook 2006, p. 696, data from the CSO National Accounts and Finance Department and own calculations.

Table 2

Index of real remuneration, retirement and disability pensions, as well as the average employment and unemployment rate

Specification	2000	2001	2002	2003	2004	2005	2006
	previous year = 100						
Average real gross remuneration in national economy	101.0	102.5	100.7	103.4	100.7	101.8	104.1
Average real retirement and disability pension from non-agricultural system of social insurance	97.7	104.7	104.6	104.1	100.6	100.3	106.2
Average real retirement and disability pension of individual farmers	97.1	106.4	101.0	102.8	99.0	99.2	104.3
Average employment in enterprises sector*	96.7	96.7	95.6	96.2	99.1	101.9	103.0
	in %						
Unemployment rate (at the end of the year)	15.1	19.4** / 17.5	20.0** / 18.0	20.0	19.0	17.6	14.9

* In units in which the number of employees exceeds 9 persons.

** In the numerator (and in 2003) according to the National Population and Housing Census of 2002 and National Agricultural Census of 2002; in the denominator – National Agricultural Census of 1996.

Source: CSO data.

Table 3

Index of prices of consumer goods and services in 2000-2006

Specification	2000	2001	2002	2003	2004	2005	2006
	previous year = 100						
Consumer goods and services	110.1	105.5	101.9	100.8	103.5	102.1	101.0
Food and non-alcoholic beverages	110.0	105.0	99.3	99.0	106.3	102.1	100.6
Alcoholic beverages and tobacco	108.0	104.3	102.3	97.8	102.6	102.7	101.7
Bread and cereal products	114.3	107.7	100.3	100.5	105.3	101.0	101.2
Potatoes, vegetables and processed products	107.9	98.8	105.4	97.2	98.2	104.2	114.3
Potatoes	117.8	87.3	118.1	90.3	100.4	117.2	151.9
Fruit and processed products	98.6	105.2	100.9	108.7	103.1	102.7	103.4
Meat, offal and processed products	109.2	108.3	96.4	94.9	109.6	102.6	96.1
Fish and fish products	104.5	113.6	102.8	98.7	100.5	103.0	101.9
Edible fats	109.4	97.1	100.8	102.4	110.8	102.2	97.6
Milk and processed products	111.3	103.6	99.8	99.1	104.3	103.2	99.8
Eggs	123.1	101.2	89.1	110.7	110.0	90.9	102.3
Sugar, confectionery and honey	120.5	100.3	99.4	99.9	117.0	102.3	100.7
Sugar	148.5	94.5	93.8	95.8	144.6	100.3	100.6

Source: "Ceny w gospodarce narodowej w 2005 r." [Prices in the national economy in 2005]. CSO, Warsaw 2006. Series: Statistical Information and Elaborations; CSO Statistical Bulletin. 2006, no 12. Warsaw, January 2007.

Table 4

Consumption of selected foodstuffs in 2000-2007
(according to balance sheet data, per capita)

Specification	2000	2001	2002	2003	2004	2005	2006	2007*
Grains of 4 cereals calculated into processed products (kg)**	120	121	120	120	119	119	118	117
Potatoes (kg)**	134	131	131	130	129	126	122	121
Vegetables (kg)	121	122	111	110	111	110	109	110
Fruit (kg)	51.6	57.7	56.7	54.5	55.0	54.1	54.3	55.0
Meat and offal (kg)	66.1	66.6	69.5	72.1	71.8	71.2	75.5	76.0
pork (kg)	39.0	38.6	39.2	41.2	39.1	39.0	41.5	41.5
beef (kg)	7.1	5.6	5.2	5.8	5.3	3.9	4.5	4.5
poultry (kg)	14.7	17.2	19.8	19.7	22.2	23.4	24.0	24.5
Fish and fish preparations***	12.5	12.3	10.6	11.6	12.7	11.4	11.9	12.0
Edible fats in commercial weight (kg)	28.7	29.5	30.8	29.2	30.7	30.6	31.0	31.2
animal (kg)	6.7	6.7	6.7	6.9	6.6	6.6	6.8	6.8
vegetable (kg)	17.8	18.5	19.5	17.6	19.7	19.8	19.9	20.0
butter (kg)	4.2	4.3	4.6	4.7	4.4	4.2	4.3	4.4
Cow milk (l)	193	187	182	181	174	173	175	173
Hen eggs (units)	188	198	211	214	211	215	215	216
Sugar (kg)	41.6	41.2	43.6	40.5	37.0	36.8	37.0	37.2

* Prognosis.
** Data for the economic years.
*** Live weight.

Source: CSO data, Sea Fisheries Institute and prognoses of the Institute of Agricultural and Food Economics – National Research Institute (IAFE-NRI).

Table 5

Average monthly consumption of highly processed food per capita in households

Specification	2000	2001	2002	2003	2004	2005	2006
High-quality smoked-meat products and sausages (kg)	0.44	0.43	0.41	0.43	0.49	0.54	0.57
Pasta (kg)	0.32	0.35	0.36	0.36	0.38	0.36	0.37
Confectionery (kg)	0.52	0.53	0.55	0.56	0.59	0.59	0.62
Ripening cheese and cream cheese (kg)	0.29	0.31	0.32	0.33	0.34	0.35	0.36
Yoghurts (l)	0.33	0.32	0.33	0.35	0.35	0.34	0.37
Ice-cream (l)	0.14	0.14	0.17	0.18	0.17	0.17	0.19
Mineral water (l)	1.11	1.22	1.56	1.87	1.89	2.13	2.62
Fruit juices (l)	0.64	0.64	0.70	0.75	0.75	0.80	0.89
Vegetable juices and fruit and vegetable juices (l)	0.14	0.15	0.17	0.17	0.20	0.20	0.21

Source: CSO Household budget survey and own calculations.

Table 6

Average monthly expenditure of households on food in mass catering establishments
(per capita)

Specification	2000	2001	2002	2003	2004	2005	2006	
	PLN per capita							2000 = 100
Nominal expenditure	7.59	7.72	9.21	9.37	10.82	11.33	13.38	176.28
	previous year = 100							
Growth rate of nominal expenditure	111.78	101.71	119.30	101.74	115.47	104.71	118.09	176.28
Inflation rate	110.1	105.5	101.9	100.8	103.5	102.1	101.0	115.65
Real expenditure growth rate (corrected by inflation rate)	101.5	96.4	117.0	100.9	111.6	102.6	116.9	152.43
Food price indices	110.0	105.0	99.3	99.0	106.3	102.1	100.6	112.71
Expenditure growth rate corrected by food prices index	101.6	96.9	120.1	102.8	108.6	102.6	117.4	156.40
Expenditure on food in mass catering in % of food expenditure	4.1	4.5	5.0	5.1	5.5	5.8	6.6	160.98

Source: CSO data and own calculations.

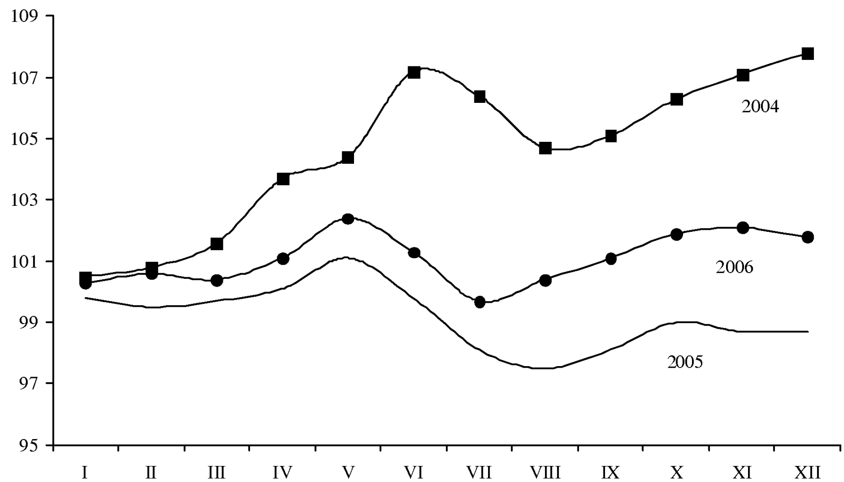

Fig. 1. Index of retail food prices in 2004-2006 (XII of previous year = 100)
Source: CSO data.

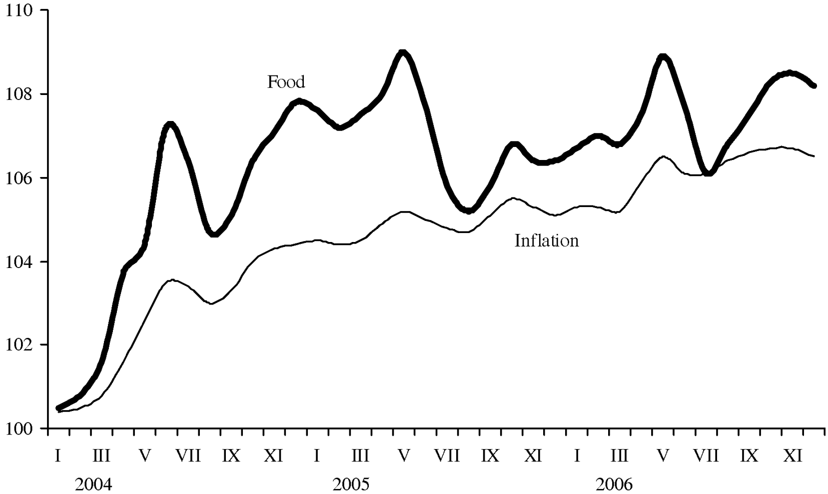

Fig. 2. Monthly growth rate of food prices against the background of inflation in 2004-2006 (XII 2003=100)

Source: CSO data and own calculations.

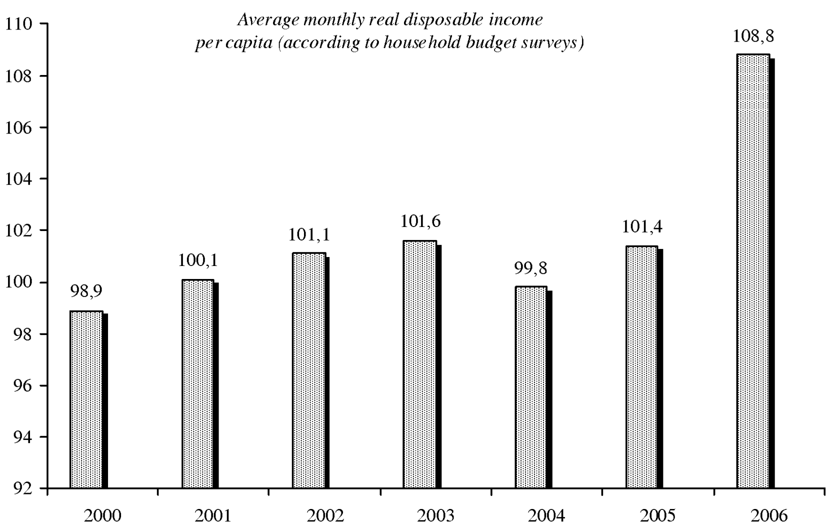

Fig. 3. Growth rate of real income in households (previous year = 100)

Source: CSO data.